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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,890	08/18/2003	Neal R. Caliendo JR.	RPS920030090US1	3348

47052 7590 03/06/2007

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EXAMINER	
INGBERG, TODD D	
ART UNIT	PAPER NUMBER
2193	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/642,890	CALIENDO ET AL.	
	Examiner	Art Unit	
	Todd Ingberg	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 12, 14 - 30 , 32 - 38* is/are pending in the application.

4a) Of the above claim(s) *13 and 31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 12, 14 - 30 , 32 - 38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/8/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1 – 12, 14 – 30 and 32 - 38 have been examined.

Claims 13 and 31have been cancelled.

Claims 37 and 38 have been added.

Drawings

1. New drawing has been accepted.

Information Disclosure Statement

2. The Information Disclosure Statement filed September 8, 2006 was considered last Office action and the wrong date entered on the Office action..

Claim Rejections - 35 USC § 101

3. The prior rejection under 35 U.S.C. 101 for claims 19-36 has been overcome by amendment. The Applicant has claimed the image on a tangible medium and the formatting is a form of writing to that image which is tangibly embodied on the computer readable medium.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 38 are rejected under 35 U.S.C. 102(b) as being anticipated by **DERIVE**: A Tool That Automatically Reverse-Engineers Instruction Encodings, Dawson R. Engler et al., ACM, 2000, pages 12 – 22.

Claim 1
DERIVE anticipates a method for providing an image of software installed on a computer system, the method comprising the steps of:
(a) deconstructing the image into at least one portion (Derive, Abstract, page 1, Reverse Engineering – installed software); and
(b) creating at least one module from the at least one portion of the image (Derive, Conclusion, page 19, instruction encoding and page 22, encoding structure, Figure 5 – emitter specification).
(c) formatting at least one module for use in a new image or at least a portion of a new image.

Examiner Note: When taking the reference as a whole, please, look on page 14 Figure 1 at the information flow for a detailed view. DERIVE solver produces encoding description and the emitter generator feeds the Instruction emitter, the presence of JIT is the Just In time Compiler which produces the new image in cooperation with the Instruction emitter. Also, please look at the bottom of page 18 one of the last sentences on Linkers "... for only a few specific type of machine-dependent information, derived by feeding appropriate inputs to existing assemblies and linkers." The Linker by definition formats input into images. That is the role of the linker.

Claim 2
The method of claim 1 wherein the deconstructing step (a) further comprises the steps of: (a2) scanning the image (As per claim 1 and DERIVE, page 21 – 22, criteria for the scan); and (a3) identifying at least one portion of the image to be modularized (DERIVE, use of criteria above).

Claim 3
The method of claim 2 wherein the identifying step (a3) comprises the steps of (a3ii) providing a list of portions of the image to be modularized; and (a3iii) selecting at least one portion of the image to be modularized. As per claim1.

Claim 4
The method of claim 1 wherein the at least one portion of the image represents at least one software program. As per claim 1.

Claim 5
The method of claim 4 wherein the at least one software program is hardware independent. (DERVICE Abstract, second paragraph and page 12 right side third paragraph).

Claim 6
The method of claim 1 wherein the at least one portion of the image represents a plurality of software programs. As per claim 1.

Claim 7
The method of claim 6 wherein the plurality of software programs comprises a combination of hardware-independent and hardware-dependent software programs. As per claim 5.

Claim 8
The method of claim 1 wherein the at least one portion of the image comprises one or more of an operating system, a set of drivers, and application software. As per claim 5.

Claim 9
The method of claim 1 wherein the creating step (b) further comprises the steps of
(b2) extracting the at least one portion of the image; and
(b3) generating at least one module from the extracted portion of the image.
As per claim 1.

Claim 10
The method of claim 9 wherein the extracted portion of the image comprises uninstall scripts.
DERIVE, the derived specification in the Abstract as per claim 1.

Claim 11
The method of claim 10 wherein the generating step (b3) comprises the steps of-
(b3ii) scanning the uninstall scripts; and
(b3iii) generating install scripts from the uninstall scripts.
As per claim 1.

Claim 12
The method of claim 11 wherein the generating step (b3iii) comprises the steps of:
(b3iiiA) reversing the order of the uninstall scripts;
(b3iiiB) determining uninstall scripts from the uninstall scripts; and
(b3iiiC) configuring a portion of the install scripts.
As per claims 1 and 5.

Claim 14
The method of claim 1 wherein the software program is hardware independent application software. As per claim 5.

Claim 15
The method of claim 14 wherein the hardware-independent application software is a hardware-independent imaging tool. As per claim 5.

Claim 16
The method of claim 1 wherein the module is hardware independent. As per claim 5.

Claim 17
The method of claim 1 wherein the creating step (b) further comprises the step of (b2) creating a plurality of modules from the at least one portion of the image. As per claim 1.

Claim 18

The method of claim 17 wherein the plurality of modules comprises a combination of hardware-independent and hardware-dependent modules. As per claim 5.

Claim 19

A computer-readable storage medium including a computer program for providing an image of software on a computer system, comprising instructions for :
(a) deconstructing the image into at least one portion; and
(b) creating at least one module from the at least one portion of the image **and;** As per the rejection for claim 1.
(c) formatting at at least one module for use in a new image or at least a portion of a new image. As per the rejection for claim 1.

Claim 20

The medium of claim 19 wherein the deconstructing instruction (a) further comprises the instructions of
(a2) scanning the image; and
(a3) identifying at least one portion of the image to be modularized. As per the rejection for claim 2.

Claim 21

The medium of claim 20 wherein the identifying instruction (a3) comprises the instructions of
(a3ii) providing a list of portions of the image to be modularized; and
(a3iii) selecting at least one portion of the image to be modularized.
As per the rejection for claim 3.

Claim 22

The medium of claim 19 wherein the at least one portion of the image represents at least one software program. As per the rejection for claim 4.

Claim 23

The medium of claim 22 wherein the at least one software program is hardware independent. As per the rejection for claim 5.

Claim 24

The method of claim 19 wherein the at least one portion of the image represents a plurality of software programs. As per the rejection for claim 6.

Claim 25

The method of claim 24 wherein the plurality of software programs comprises a combination of hardware-independent and hardware-dependent software programs. As per the rejection for claim 7.

Claim 26

The medium of claim 19 wherein the at least one portion of the image comprises one or more of an operating system, a set of drivers, and application software. As per the rejection for claim 8.

Claim 27
The medium of claim 19 wherein the creating instruction (b) further comprises the instructions of
(b2) extracting the at least one portion of the image; and
(b3) generating at least one module from the extracted portion of the image.
As per the rejection for claim 9.

Claim 28
The medium of claim 27 wherein the extracted portion of the image comprises uninstall scripts. As per the rejection for claim 10.

Claim 29
The medium of claim 28 wherein the generating instruction (b3) comprises the instructions of:
(b3ii) scanning the uninstall scripts; and
(b3iii) generating install scripts from the uninstall scripts.
As per the rejection for claim 11.

Claim 30
The medium of claim 29 wherein the generating instruction (b3iii) comprises the instructions of
(b3iiiA) reversing the order of the uninstall scripts;
(b3iiiB) determining install scripts from the uninstall scripts; and
(b3iiiC) configuring a portion of the install scripts.
As per the rejection for claim 12.

Claim 32
The medium of claim 31 wherein the software program is hardware independent application software. As per the rejection for claim 14.

Claim 33
The medium of claim 32 wherein the hardware-independent application software is a hardware-independent imaging tool. As per the rejection for claim 15.

Claim 34
The medium of claim 19 wherein the module is hardware independent. As per the rejection for claim 16.

Claim 35
The medium of claim 19 wherein the creating instruction (b) further comprises the instruction of (b2) creating a plurality of modules from the at least one portion of the image. As per the rejection for claim 17.

Claim 36

The medium of claim35 wherein the plurality of modules comprises a combination of hardware-independent and hardware-dependent modules. As per the rejection for claim 18.

Claim 37
A method providing an image of software installed on a computer system, the method comprising the steps of:
(a) deconstructing the image into a portion
(b) creating at least one module from the at least one portion of the image; and
(c) formatting the at least one module for use in at least a portion of a new image.
As per the rejection for claim 1.

Claim 38
A computer-readable storage medium including a computer program for providing an image of software installed on a computer system, comprising instructions for:
(a) deconstructing the image into a portion
(b) creating at least one module from the at least one portion of the image; and
(c) formatting the at least one module for use in at least a portion of a new image.
As per the rejection for claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 7, 14-16, 18 23, 25, 32-34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over DERIVE in view of Modular Type-Based Reverse Engineering of Parameterized Types in Java Code, Dominic Duggan, ACM, 1999, pages 97-113.

Since, it is not clear if the independence the Applicant is claiming is from the input of the output of reverse engineering the Examiner has elected to reject the following claims under 35 U.S.C. 103(a).

Motivation to Combine DERIVE and JAVA

DERIVE teaches the emitting of C code (DERIVE, page 22). C code is not universally known to be platform independent. It is JAVA who teaches a well known platform independent language. Therefore, it would have been obvious to one of ordinary skill in the art to combine DERIVE and JAVA, because reverse engineering for a language like JAVA which is platform

independent by the implementation of a virtual machine, would make a reverse engineering tool more flexible.

Claims 5 and 23
The method of claim 4 wherein the at least one software program is hardware independent. (JAVA, page 97, Introduction).

Claims 7 and 25
The method of claim 6 wherein the plurality of software programs comprises a combination of hardware-independent and hardware-dependent software programs. As per claim 5.

Claims 14 and 32
The method of claim 13 wherein the software program is hardware independent application software. (JAVA, page 97, Introduction).

Claims 15 and 33
The method of claim 14 wherein the hardware-independent application software is a hardware-independent imaging tool. (JAVA, page 97, Introduction).

Claims 16 and 34
The method of claim 1 wherein the module is hardware independent. (JAVA, page 97, Introduction).

Claims 18 and 36
The method of claim 17 wherein the plurality of modules comprises a combination of hardware-independent and hardware-dependent modules. (JAVA, page 97, Introduction).

Response to Arguments

5. Applicant's arguments filed December 8, 2006 have been fully considered but they are not persuasive.

On Page 15 of Applicant's response as follows:

"Applicant submits that DERVIVE fails to disclose computer-readable storage medium including a computer program for providing an image of software installed on a computer system, comprising instructions for deconstructing the image into at least one portion, creating at least one module from the at least one portion of the image, and formatting the at least one module for use in a new image or at least apportion of a new image.

As previously stated in regard to claim 1 above. Applicant's submits that DERIVE discloses a method of reverse-engineering instructions encoding from pre-existing software (the system assembler) and uses the information extracted to construct dynamic linking libraries, object-level sandboxes, executable optimizers and linkers. However, Applicants submit that the aforementioned method and applications are not equivalent to a software program comprising computer instructions formatting the at least one module for use in a new image or at least a portion of a new image. Furthermore, Applicant submits DERIVE fails to disclose a formatting method of an image or module to be used within a computer readable storage medium."

Examiner's Response

When taking the reference as a whole, please, look on page 14 Figure 1 at the information flow for a detailed view. DERIVE solver produces encoding description and the emitter generator feeds the Instruction emitter, the presence of JIT is the Just In time Compiler which produces the new image in cooperation with the Instruction emitter. Also, please look at the bottom of page 18 one of the last sentences on Linkers "... for only a few specific type of machine-dependent information, derived by feeding appropriate inputs to existing assemblies and linkers."

It appears the Applicant views the reverse-engineering as resulting into making a LINKER. That is not technically feasible. It appears to reverse engineer linkable libraries. But the LINKER receives appropriate inputs. That is how images are created. This is a key technical issue. Examiner believes with that key technical point the Applicant can revisit the reference and the Specification and determine the patentable subject matter that is currently not claimed.

Examiner "Thanks" Applicant for the new drawings and overcoming the rejection under 35 U.S.C. 101.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Todd Ingberg whose telephone number is (571) 272-3723. The examiner can normally be reached on during the work week..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Todd Ingberg
Primary Examiner
Art Unit 2193

TI